OTS: 60-31,077

JPRS: 3042

2 March 1960

DATA ON THE CHEMICAL INDUSTRY OF NORTH KOREA

/Translation/

F O R E W O R D

This publication was prepared under contract by the UNITED STATES JOINT PUBLICATIONS RESEARCH SERVICE, a federal government organization established to service the translation and research needs of the various government departments.

JPRS: 3042
OTS: 3429-D

OUR COUNTRY'S CHEMICAL INDUSTRY ON THE 14TH ANNIVERSARY OF THE 15 AUGUST LIBERATION

Hwahakkwa Hwahak Kongop
/Chemistry and chemical Industry/
No 5, September-October 1959, Pyongyang
Pages 1-6
North Korean, per

Unsigned article

With the increased enthusiasm of a galloping horse heading toward the high summit for the establishment of socialism under the leadership of the Korean Labor Party, we greet the glorious 14th national anniversary of the 15 August liberation by the Soviet Army.

In the past 14 years, our country has been changed from one of th e backward colonial nations of the century to the strong industrial and agricultural nation of today. Despite many difficulties and hardships, the journey of the last 14 years was that of a glorious struggle to establish our fatherland as the paradise on earth under the wise leadership of the party. Because of this struggle, which enabled us to accomplish the objectives of the First Five-Year Plan 2.5 years ahead of schedule, we greet this national anniversary with more pride than ever.

Our people continue to hold the rein of the galloping horse rushing toward the summit where the Communist society can be seen on the horizon.

The chemical industry, together with other fields of the people's economy, has rapidly developed during the 14 years since the liberation.

The chemical industry in our country before the liberation was heavily subjected to the policy of colonial dependency with backward technique. Imperialist Japan built the fertilizer plants in the Hungnam area to exploit the agricultural products of our country. The Japanese also built a few organic synthetic chemical plants in other areas, but all of these were for the purpose of producing military supplies for the continental aggression of imperialist Japan, and also for the purpose of exploiting the agricultural and industrial products of our country. Therefore, before the liberation, there were virtually no industrial bases of the pharmaceutical, synthetic, and dye industries, and the few existing plants had very poor facilities.

When our people were liberated by the Soviet Army, imperialist Japan destroyed practically all the chemical plants.

The laborers and engineers, who for the first time became the master of the plants as well as of the nation, began the task of reconstruction in spite of all the difficulties and bottlenecks. However, it was never easy to overcome the problem of insufficient materials and engineers.

Even under these circumstances, led by the leadership of the party and encouraged by the material and spiritual aids provided by the Soviet people, laborers and engineers of the chemical industry displayed a creative enthusiasm and great struggling effort, and the volume of production of the chemical industry in 1949 reached the 1944 level. For the purpose of training technical personnel, our party opened the Hungnam Engineering College, the Department of Chemistry at Kim Il Sung University, and many technical and mechanical schools.

During the 3-year period of war for the liberation of our fatherland, which was provoked by the traitor Synhman Rhee and American imperialists, the chemical industry suffered the heaviest damage among all the industries because of the bombing by American planes. The extent of the damage suffered by the chemical industry was estimated to have reached 24,8 billion won (old currency), 24 billion of which was in fixed assets.

Immediately after the war, the chemical industry of our country could produce hardly any basic products and it could not even produce one ton of chemical fertilizer.

Starting from these newly created postwar situations, our party has shown us the general direction of the task with respect to postwar reconstruction of the people's economy.

Based on the decisions made at the 6th Party Congress in regard to the program of simultaneous development of light industry and agriculture, and the priority development of heavy industry, which is the basis of the reconstruction of the people's economy, the party prescribed the direction of the postwar reconstruction and development of the chemical industry as follows:

(1) The primary emphasis should be placed on the reconstruction of the plants for producing the chemical fertilizer necessary to solve the postwar food shortage created by the destruction of the farm economy during the war.

(2) The vitally needed construction material industry, especially the cement industry, should be reconstructed within the shortest time possible to rehabilitate the destroyed cities, farms, plants, enterprises, railroads, streets andhousing.

(3) The acid and alkali producing industry should be reconstructed to produce various chemical products (caustic soda, carbonic natrium, hydrochloric acid, etc.) which guarantee the production of the various products of light industry essential for the people 's daily life.

Having accomplished successfully the preparatory task to reconstruct the chemical industry, we initiated the struggle to complete the 3-year plan of the rehabilitation of the people 's economy in accordance with these general guidelines.

We set the production goal of all industry in 1956 at 127% of the 1949 level, and that of the chemical industry at 91.4% of the 1949 level, which was the highest level attained before the war. We also proposed to undertake the construction of huge new plants such as ammonium nitrate fertilizer plants, agricultural chemical plants, dye plants, and automated cement plants in preparation for the production of new chemical products which were not produced in this country before.

It was never an easy task for all the factories to accomplish this gigantic plan under the difficult conditions of destruction.

Our dear comrade Kim Il Sung personally inspected the Hungnam area immediately after the cease-fire and gave us concrete direction and guidance for the reconstruction of the destroyed chemical industry. Encouraged by this visit, the entire workers and engineers of the chemical industry raised high the torch of reconstruction at the ruined factories.

Since the war, the Soviet people, who liberated us and helped us in the past, has again given us material and technical help for the development and reconstruction of the chemical industry as well as other industries.

They not only built without any compensation an ammonium nitrate fertilizer plant with modern facilities, reconstructed the Hungnam Chemical Plant, and built the February 8 Vinalon Cement Plant which has an annual production capacity of 400,000 tons, but also gave us technical help by sending us planning and technical workers who participated in the actual construction of the plants.

The Soviet people also have provided the services of their technicians for the technical guidance of phenolic resin production at the Youngan Chemical Plant, for hydrochloric acid production at the Pongoong Chemical Plant, and for reconsideration of the quality of the cement and productive capacity. Many workers and technicians were sent to the Soviet Union to learn the techniques involved in the production of ammonium nitrates, synthetic treatment of naphthalate, the production of aluminum, etc.

Because of these huge technical and material aids from the Soviet Union and enhanced efforts made by the workers, most of the chemical plants started their operations during 1954, the first year of the 3-year plan. Especially noteworthy is that the first stage reconstruction of the ammonium sulfate plant of the Hungnam Chemical Plant was completed, which was followed by the reconstruction of the Pongoong Chemical Plant and calcium oxide and nitrogen fertilizer plants in Soonchun. As a result, in 1956 we could supply various chemical fertilizers for agriculture.

At the same time, we guaranteed the supply of agricultural chemicals, caustic soda, carbide and others by means of mass production.

Especially noteworthy was the cement industry. It produced and supplied 594,000 tons of cement, or 112% of the 1949 production volume, to meet the demands for the reconstruction of industries and housing construction.

The chemical industry has exceeded its goal of production imposed on it by attaining 122.4% of the 1949 level; and especially in 1956, the production level was 4.5 times that of 1953 and 127.1% of 1949.

Consequently, by means of the 3-year plan, the chemical industry reconstructed the war damages in a short period of time and established the technical and economical foundations for the successful accomplishment of the First Five-Year Plan.

The historically significant Party Congress of the Korean Labor Party, which was held in 1956, has shown us the direction for the development of the chemical industry during the 5-year plan, based on accomplishments during the postwar 3-year plan.

The main task of the chemical industry is to continue developing the production of chemical fertilizers necessary for agriculture. Consequently, it has been decided to build in 1961 caustic soda and dye plants, and a plant which is capable of producing 400,000 tons of fertilizer, and also to reconstruct carbide production facilities at Pongoong, and to produce carbide by-products, such as alcohol, synthetic

fibre, vinyl, and other products of organic synthetic chemistry. The production of cement, which is indispensable to the reconstruction and development of the economy, is to increase to 1.5 million tons per year -- a 50% increase -- during the period.

Encouraged by these decisions, all the workers of the chemical industry marched down the road to the realization of the 5-year plan.

Supporting the decisions made by the party congress held in December 1956 to effect the maximum output and savings and personal insepction and guidance of Comrade Kim Il Sung, the workers and engineers of the chemical industry made a resolution to exceed the production requirements of chemical products in 1957. For instance, they decided to surpass the production requirement of chemical fertilizer by 30,000 tons, carbide by 14,000 tons, cement by 94,000 tons, etc. This resolution was successfully carried out and the actual production reached 106.3% of the original plan which took into account the task of increasing production.

The growth of major chemical products during the First Five-Year Plan and the prospect of development for the next 3 to 4 years are as follows:

Fertilizer Industry

Since the cease-fire, the fertilizer industry of our country has been equipped with the latest techniques provided by the huge material and technical aid of the Soviet people and creative efforts of our workers. For instance, in the department of ammonia production, which is the raw material of nitrogen fertilizer, by improving the inside mechanism of the purifying cylinder and compounding cylinders for the mixed gas, the compound ratio of ammonia has been raised from 16 to 18% under the high atmospheric pressure of 700 in the past to more than 30% under the atmospheric pressure of 400.

A nitrogen plant with modern facilities and a production capacity of 130,000 tons a year was built and started operation by the Hungnam Fertilizer Plant under the assistance of the great Soviet people, and also a superphosphate of lime fertilizer plant with a production capacity of 300,000 tons a year will start operations in the near future. The method of ammonia compound through the use of waste gas of carbide industry and transformation of coal into gas will be adopted in a few years from abroad, and the volume of production of chemical fertilizer is expected to reach 1.5 to 2 million tons a year.

In addition, in 1959, 7,000 tons of low count fertilizer (boron fertilizer contains 1-3% of boracic acid) has been produced as the by-product in the process of boracic acid production, and the volume of production is expected to reach 16,000 tons in 1961.

Agricultural Chemicals Industry

Our party has proposed to the chemical industry to organize and increase the production of agricultural chemicals, together with chemical fertilizer.

A hexachlorine plant was built for the first time in our country in 1956 from which more than 20,000 tons of production is estimated this year. Also a DDT plant with a production capacity of 750 tons (100%), 2.4D and other agricultural chemical plants will start operations in a few years, and a formalin plant with a production capacity of 10,000 tons per year will also be operated.

Alkali and Heat Industry

The sodium carbonate industry has been developed rapidly to satisfy the demands of such industries as plate glass production. At present, the volume of production of carbonic natrium is 3 times that of the pre-liberation period, and it is expected to increase further to 4 times. The sodium carbonate industry in 1965 is expected to grow double the size of 1960.

The caustic soda industry has also grown rapidly. New factories are expected to be built in a few years to meet the demands for synthetic fibers and other textiles which will be expanded to a great extent. The caustic soda industry in 1965 will be 2.5 times the size of 1960, and especially, the method of using a diaphragm in the production of caustic soda will be adopted.

The utterly destroyed carbide industry also has attained a rapid development together with other industries. Since a large-scale development of the organic synthetic industry, based on the use of acetylene, is expected in the near future, we will witness the phenomenal growth of the carbide industry. Many improvements are being made to lower the electricity consumption per ton in production and to raise the quality.

Organic Synthetic Industry

The organic synthetic industry has been established since the liberation from Japan. Under the Japanese occupation, the organic synthetic industry has mainly been limited to the production of war materials.

Since the liberation, the old and limited facilities of the organic synthetic industry left by the Japanese have been improved and have since produced glacial acetic acid, ethyl alcohol, acetone, glycol, mathanol, and formalin.

Because the demands for organic synthetic products has increased since the war, the production facilities for synthetic fibers and plastics are being developed and reconstructed, based on new techniques. Infinitely encouraged by the personal inspection and guidance of comrade Kim Il Sung, the workers and engineers of the chemical industry roused themselves to accomplish the objectives set by the party which prcposed the rapid development of the chemical fiber industry that occupies an important place for the solution of the problems of daily essentials.

Consequently, an intermediate plant of the Chungsoo Chemical Plant for the production of vinyon with a daily production capacity of 200 kg has been built and started operation. Also, at the Pongoong Chemical Plant, a vinyon plant with a yearly production capacity of 10,000 tons is being built rapidly and is expected to start operation next year.

The mass production of new synthetic fiber is expected as the synthetic fiber industry expands itsproducts. Within 4 or 5 years, the production of vinyon, nitron, nylon and polyvinyl chloride are expected. Research activities are proceeding rapidly at the respective research institutes for the industrialization of nylon, nitron, and polyvinyl chloride. In 1965, the volume of production for synthetic fiber is expected to reach four times that of 1960. This expected growth indicates the hopeful prospect of producing 50 meters per capita as indicated by the party.

The plastic industry in our country imports rawmaterials and processes them with phenolformaldehyde resins. From this processing there are produced about 70 kinds of products. During the First Five-Year Plan, the production for phenol resins, urea resins, and vinyl chloride resins will be started. As a matter of fact, the production of urea resins and phenol resins has been started, and in 1960, the plant for vinyl chloride will begin operation.

In the future, the synthetic resins industry is expected to grow in large scale by expanding its products to meet demands. The volume of production in 1965 is expected to reach 7.6 times that of the 1960 level.

We are planning to build a synthetic rubber industry based on acetylene, and its volume of production is expected to reach 20,000 tons in 1965, which will satisfy the domestic demand for rubber.

There was no dye industry in this country before the liberation. The foundation of the dye industry has been established for the first time with the assistance of the Hungarian people. The present dye plant being built in Pongoong is in the last stage of construction and will start operation in the near future. This dye plant is mainly for sulfur dye; however, the production of various azo dyes are expected in the future, with this plant as the base.

Paint and various oil and fat industries have been developed rapidly since the war. In the Haeju Chemical Plant, a paint plant with a production capacity of 2,000 tons has been built since the war. In accordance with the decisions made by the party congress in June 1958, workers and engineers in this field are building a paint plant with a yearly production capacity of 10,000 tons, and the actual operation of the plant is expected soon. The yearly production of 2,000 tons of various expensive paints such was nitrocellulose lacquer and synthetic resin lacquer is expected, and the production of paints and printing inks will satisfy the domestic demand.

Pharmaceutical Industry

Before the liberation, there was practically no pharmaceutical industry in our country. Since the liberation, our party has built a pharmaceutical industry to strengthen the task of public health. Until the war, 4 pharmaceutical plants produced 80 kinds of medicine. During the post-war 3-year plan, pharmaceutical plants in Pyunguang, Hungnam and Nanam were rehabilitated and produced 100-odd kinds of medicine. Since we stepped into the period of the First Five-Year Plan, important organic synthetic pharmaceutical products such as aspirin, sulfadiazole, sulfaguanidine, etc. have been newly produced, and furthermore, their production capacity has been increased 3 to 4 times.

With the aspirin plant of the Soonchun Pharmaceutical Plant (which was built with the assistance of Rumania) as the base, a plant for penicillin and other antibiotics, plants for various sulfa drugs, other important synthetic pharmaceutical plants, and also a plant for various alkaloid and other medicines from plant chemistry and biology will be built. Consequently, the volume of production will jump about 7 times from that of 1960 within 4 or 5 years.

Cement Industry

Before the liberation, the abundant supply of rawmaterial made the cement industry the prime object of colonial exploitation by imperialist Japan. To expand the reconstruct the destroyed economy rapidly in the post-war period, the cement industry stepped into operation immediately.

During the First Five-Year Plan, the volume of cement production has increased to double the volume produced under Japanese control, and in the near future, a yearly production of 5 million tons is expected when the cement plants with the latest facilities are constructed in Sungheri, Komusan, and Chunneri.

A new February 8 Madong Cement Plant with a production capacity of 400,000 tons a year was built and started operation this year with the noble assistance of the Soviet people, and its latest facilities include a remote control system as well as completely automatic and mechanized facilities.

Together with this construction of plants, many creative proposals for the technical improvement of cement production plants have been offered, which enabled the improvement of the quality of the products.

The glorious future prospects as well as the development of the chemical industry in the 14 years since the liberation unfailing vindicate the correctness of the economic policy of our party.

On the occasion of the 10th anniversary commemorating the establishment of the Republic, Premier Kim Il Sung has shown us the propsect for developing the chemical industry in 6 or 7 years, and the Red letter sent by the central committee of the party to all party members appealed to attain successfully this party program by destroying the mystery of science, and conservatism as well as negativism.

Infinitely encouraged by these, the workers and engineers of the chemical industry have been developing a brilliant struggle to attain the goal of the First Five-Year Plan in 2 or $2\frac{1}{2}$ years, and have made a resolution to attain the party programs as shown by the party in 4 or 5 years instead of 6 to 7 years.

Truly, never in history do you find a speed of development as rapid as ours. The central committee of our party has appealed in its address to the people that "we must produce more chemical products of various kinds, we must solve the problem of raw materials for the textile industry, and we must supply more chemical fertilizer for agriculture by rapidly developing the chemical industry."

The workers and engineers of the chemical industry have displayed new efforts and enthusiasm in support of this appeal.

On this glorious occasion of the 14th anniversary of the 15 August liberation, we look back with infinite pride on our miraculous achievements for the last 14 years under the leadership of Kim Il Sung and the party. A more glorious tomorrow is ahead of us. We, the workers

and engineers of the chemical industry, will continue to advance and improve toward the high summit of socialism by following the road indicated by the party, and we will for certain attain the program enunciated by the party within 3 to 4 years.

5158 - END -